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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Artcle 36 and Rule 70)

Applicant's or agent's file reference MG-19503-PCT	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. **PCT/KR2003/001017**	International filing date *(day/month/year)* **23 MAY 2003 (23.05.2003)**	Priority date *(day/month/year)* 23 MAY 2002 (23.05.2002)
International Patent Classification (IPC) or national classification and IPC **IPC7 A61K 38/04**		
Applicant **MOK, Kenneth Hun**		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   [X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

   - I [X] Basis of the report
   - II [ ] Priority
   - III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV [ ] Lack of unity of invention
   - V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI [ ] Certain documents cited
   - VII [ ] Certain defects in the international application
   - VIII [ ] Certain observations on the international application

Date of submission of the demamd	Date of completion of this report
06 DECEMBER 2003 (06.12.2003)	14 SEPTEMBER 2004 (14.09.2004)
Name and mailing address of the IPEA/KR Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer SONG, Keon Hyoung Telephone No. 82-42-481-5607

Form PCT/IPEA/409 (cover sheet) (July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International aplication No.
PCT/KR2003/001017

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed

☒ the description:
pages 1-7 , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____

☒ the claims:
pages _____ , as originally filed
pages _____ , as amended (together with any statment) under Article 19
pages _____ , filed with the demand
pages 8 , filed with the letter of 26/08/2004

☐ the drawings:
pages _____ , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____

☐ the sequence listing part of the description:
pages _____ , as originally filed
pages _____ , filed with the demand
pages _____ , filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application(under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination(under Rules 55.2 and/ or 55.3).

3. With regard to any **nucleotide** and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained inthe international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disc losure in the international applicationas as filed has been furinshed.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:
☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheet _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box(Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION

International aplication No.
PCT/KR2003/001017

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-7	YES
	Claims		NO
Inventive step (IS)	Claims	1-7	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following document:

D1: US 6046168

Claims 1-6 relate to a pharmaceutical composition comprising a peptide selected from the group consisting of D-Pro D-Tyr D-Val and D-Leu D-Thr D-Val, and claim 7 relates to a food composition selected from the same group.

D1 discloses a pharmaceutical composition and a food composition comprising Pro Tyr Val and Leu Thr Val and defines pharmaceutical formulations of these compositions, and the amount of dosage.

1. Novelty

Claims 1-7 claim a pharmaceutical composition and a food composition selected from the group consisting of D-Pro D-Tyr D-Val and D-Leu D-Tyr D-Val.

The present invention is the same as D1 in its purpose of providing a pharmaceutical composition comprising a peptide inhibiting triglyceride levels in blood and substantially the same in its technical feature such as a peptide Pro Tyr Val and a peptide Leu Thr Val; pharmaceutical formulations in forms of a tablet, powder, granule, and an injection; and the administered amount of the peptide of about 1 to 100 mg.

But, Claims 1-7 defines a peptide only as an isomer of D-form, which is different from a peptide not separated in D1. Thus claims 1-7 are novel over D1 under PCT Article 33(2).

2. Inventive Step

The structure of a peptide of the present invention defined as D-form is different from that of D1 and the effect from the above definition is remarkable as shown in Table 1 of detailed description: compared to L-form, D-Pro D-Tyr D-Val lowers serum triglyceride in blood by 56.9% and D-Leu D-Tyr D-Val lowers serum triglyceride by 83.5%. Thus claims 1-7 involve an inventive step under PCT Article 33(3).

3. Industrial Applicability

Claims 1-7 are industrially applicable under PCT Article 33(4).

What is claimed is:

1. A pharmaceutical composition for administration to a human or an animal comprising a peptide selected from the group consisting of D-Pro D-Tyr D-Val D-Val, D-Pro D-Tyr D-Val, and D-Leu D-Thr D-Val as an active component.

2. The pharmaceutical composition of claim 1, being selected from the group consisting of a tablet, a powder, a granule, a pill and an injectable form.

3. The pharmaceutical composition of claim 2, which is an injectable form.

4. The pharmaceutical composition of claim 3, wherein said injectable form is selected from the group consisting of a solution, a suspension and a emulsion.

5. The pharmaceutical composition of claim 1, wherein the composition comprises from 1 to 100 mg of said peptide.

6. A pharmaceutical composition as claimed in any of claims 1 to 5, wherein the N-terminal NH_2 group is replaced with a COOH group and/or the C-terminal COOH group is replaced with an NH_2 group.

7. A food composition for administration to a human or an animal comprising a peptide selected from the group consisting of D-Pro D-Tyr D-Val D-Val or D-Pro D-Tyr D-Val or D-Leu D-Thr D-Val as an active component.